

**Listing of Claims.**

1. (currently amended) 1. A critical temperature indicator which provides an irreversible visual indication that the indicator has been exposed to a predetermined critical temperature, which includes:

a transparent housing; and

a temperature sensitive transformable material operably contained within said transparent housing which includes mixture of water, latex, and ice nucleating active (INA) DNA microorganism which is translucent prior to exposure of a predetermined temperature and is transformed upon being subjected to said predetermined temperature to render a substantially consistent opaque material thus precluding visibility therethrough and thereby providing a sure visual sign that said indicator has been subjected to said predetermined temperature.

2. (previously presented) The critical temperature indicator of claim 1, wherein said latex includes particles having a diameter of less than about 0.05 microns.

3. (previously presented) The critical temperature indicator of claim 1, wherein said latex is present in said material in an amount of from about 5 to 35 weight percent.

4. (currently amended) The critical temperature indicator of claim 1, wherein said INA agent microorganism is present in said material in an amount of from about 0.01 to 1.0 weight percent.

5. (currently amended) The critical temperature indicator of claim 1, wherein said INA agent microorganism includes ice nucleating active (INA) microorganisms which contain a molecular structure to attract said water and which upon reaching said predetermined temperature interacts with said latex to form said opaque material.

6. (previously presented) The critical temperature indicator of claim 1, wherein said latex includes one of acrylic, nitrile, polychloroprene, paraffin, polyethylene, waxes, styrene-butadiene, vinyl pyridine based, styrene polymers, styrene/butadiene copolymers, styrene/acrylic acid copolymers, vinyltoluene/tertiarybutyl styrene copolymers, vinylidene chloride/vinyl chloride copolymers or mixtures thereof.
7. (currently amended) The critical temperature indicator of claim 1, which further includes a colored substrate operably disposed with respect to said housing such that said colored substrate can be seen through said housing while said material is substantially in said transparent state and is substantially invisible when said material is opaque.
8. (previously presented) The critical temperature indicator of claim 7, wherein said colored substrate forms part of backing to which said housing is sealably connected.
9. (previously presented) The critical temperature indicator of claim 7, wherein said backing has an exposed surface having a self adhesive material applied thereto.
10. (previously presented) The critical temperature indicator of claim 7, wherein said substrate is a colored strip contained within said housing.
11. (previously presented) The critical temperature indicator of claim 1, which further includes a stabilizer for said INA microorganism.
12. (currently amended) A critical temperature indicator which provides an irreversible visual indication that the indicator has been exposed to a predetermined critical temperature, which includes:

a transparent housing; and  
a temperature sensitive transformable material operably contained within said transparent

housing which includes mixture of water, latex, and ice nucleating active (INA) INA microorganism which is translucent prior to exposure of a predetermined temperature and is transformed upon being subjected to said predetermined temperature to render a substantially consistent opaque material thus precluding visibility therethrough and thereby providing a sure visual sign that said indicator has been subjected to said predetermined temperature, wherein said INA agent microorganism includes ice nucleating active (INA) INA microorganisms which contain a molecular structure to attract said water and which upon reaching said predetermined temperature interacts with said latex to form said opaque material.

13. (previously presented) The critical temperature indicator of claim 12, wherein said latex includes particle size having a diameter of less than about 0.05 microns.

14. (previously presented) The critical temperature indicator of claim 12, wherein said latex is present in said material in an amount of from about 5 to 35 weight percent.

15. (currently amended) The critical temperature indicator of claim 12, wherein said INA nucleating agent microorganism is present in said material in an amount of from about 0.01 to 1.0 weight percent.

16. (previously presented) The critical temperature indicator of claim 12, wherein said latex includes one of acrylic, natural, nitrile, polychloroprene, paraffin, polyethylene, waxes, styrene-butadiene, vinyl pyridine based, styrene polymers, styrene/butadiene copolymers, styrene/acrylic acid copolymers, vinyltoluene/tertiarybutyl styrene copolymers, vinylidene chloride/vinyl chloride copolymers or mixtures thereof.

17. (previously presented) The critical temperature indicator of claim 12, which further includes a colored substrate operably disposed with respect to said housing such that said colored

substrate can be seen through said housing while said material is in said transparent state and is substantially invisible when said material is opaque.

18. (previously presented) The critical temperature indicator of claim 17, wherein said colored substrate forms part of backing to which said housing is sealably connected.

19. (previously presented) The critical temperature indicator of claim 17, wherein said backing has an exposed surface having a self adhesive material applied thereto.

20. (previously presented) The critical temperature indicator of claim 17, wherein said substrate is a colored strip contained within said housing.

21. (previously presented) The critical temperature indicator of claim 12, which further includes a stabilizer for said INA microorganism.

22. (currently amended) A critical temperature indicator which provides an irreversible visual indication that the indicator has been exposed to a predetermined critical temperature, which includes:

a transparent housing;

a temperature sensitive transformable material operably contained within said transparent housing which includes mixture of water, latex, and ice nucleating active (INA) INA microorganism which is translucent prior to exposure of a predetermined temperature and is transformed upon being subjected to said predetermined temperature to render a substantially consistent opaque material thus precluding visibility therethrough and thereby providing a sure visual sign that said indicator has been subjected to said predetermined temperature; and

a colored substrate operably disposed with respect to said housing such that said colored substrate can be seen through said housing while said material is in said transparent state and is substantially invisible when said material is opaque.

23. (previously presented) The critical temperature indicator of claim 22, wherein said latex includes particle size having a diameter of less than about 0.05 microns.
24. (previously presented) The critical temperature indicator of claim 22, wherein said latex is present in said material in an amount of from about 5 to 35 weight percent.
25. (previously presented) The critical temperature indicator of claim 22, wherein said INA microorganism is present in said material in an amount of from about 0.01 to 1.0 weight percent.
26. (currently amended) The critical temperature indicator of claim 22, wherein said INA microorganism includes ~~ice nucleating active (INA)~~ INA microorganisms which contain a molecular structure to attract said water and which upon reaching said predetermined temperature interacts with said latex to form said opaque material.
27. (previously presented) The critical temperature indicator of claim 22, wherein said latex includes one of acrylic, natural, nitrile, polychloroprene, paraffin, polyethylene, waxes, styrene-butadiene, vinyl pyridine based, styrene polymers, styrene/butadiene copolymers, styrene/acrylic acid copolymers, vinyltoluene/tertiarybutyl styrene copolymers, vinylidene chloride/vinyl chloride copolymers or mixtures thereof.
28. (previously presented) The critical temperature indicator of claim 22, wherein said colored substrate forms part of backing to which said housing is sealably connected.
29. (previously presented) The critical temperature indicator of claim 22, wherein said backing has an exposed surface having a self adhesive material applied thereto.

30. (previously presented) The critical temperature indicator of claim 22, wherein said substrate is a colored strip contained within said housing.

31. (previously presented) The critical temperature indicator of claim 22, which further includes a stabilizer for said INA microorganism.